

USPN: 10/747,873
Group Art Unit: 2876
Docket No. 161-P-071BUS01

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Method for reading a graphic pattern, comprising the steps of:

illuminating said graphic pattern with at least two groups of light sources, each of said at least two groups of light sources having at least one light source operating according to an illumination cycle that comprises an illumination cycle-portion and a non-illumination cycle-portion;

wherein said light sources of one of said at least two groups of light sources are activated according to equal illumination cycles,

wherein said illumination cycles of said light sources belonging to different ones of said at least two groups of light sources ~~having~~ have a reciprocally different timing;

gathering light from said light sources having been diffused by said graphic pattern on a sensor having a plurality of sensitive points, and

converting, through a conversion cycle of said sensor, said light impinging on said plurality of sensitive ~~points-point points, point by point-intepoint, into~~ electric signals representative of single points of said graphic pattern, at a same time for all of said plurality of sensitive points, said conversion cycle comprising an acquisition step and a non-acquisition step;

wherein the acquisition step overlaps at least partially with said illumination cycle-portion of said light sources of each of said groups of light sources.
2. (Original) Method according to claim 1, wherein said illumination cycles of all of said light sources are equal to one another, and wherein said illumination cycles of said light sources of one of said at least two groups of light sources are not timed with respect to said illumination cycles of said light sources of a different one of said at least two groups of light sources.

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3. (Currently Amended) Method ~~according to any one of claims 1,~~ for reading a graphic pattern, comprising the steps of:
illuminating said graphic pattern with at least two groups of light sources, each of said at least two groups of light sources having at least one light source operating according to an illumination cycle that comprises an illumination cycle-portion and a non-illumination cycle-portion;
wherein said light sources of one of said at least two groups of light sources are activated according to equal illumination cycles,
wherein said illumination cycles of said light sources belonging to different ones of said at least two groups of light sources have a reciprocally different timing;
gathering light from said light sources having been diffused by said graphic pattern on a sensor having a plurality of sensitive points, and
converting, through a conversion cycle of said sensor, said light impinging on said plurality of sensitive points, point by point, into electric signals representative of single points of said graphic pattern, at a same time for all of said plurality of sensitive points.
wherein said conversion cycle of said converting step comprises an acquisition step and a non-acquisition step.
4. (Currently Amended) Method according to claim 3~~1~~, wherein said illumination cycle of each light source and said conversion cycle have a same period.
5. (Original) Method according to claim 4, wherein each of said light sources is located a distance from a privileged illumination zone, said method further comprising the step of dividing said light sources into one of said at least two groups of light sources according to said distance.
6. (Original) Method according to claim 5, wherein, for each of said light sources of one of said at least two groups of light sources, said illumination cycle-

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portion overlaps said gathering step wherein a greater distance of said light sources of said one of said at least two groups of light sources from said privileged illumination zone corresponds to a longer overlap.

7. (Original) Method according to claim 4, wherein in said conversion cycle said acquisition step and said non-acquisition step are regulated by a shutter, which, when activated, determines said non-acquisition step, and when not activated, determines said acquisition step.
8. (Original) Method according to claim 4, wherein said sensor operates according to a succession of scanning steps having said same period, such scanning steps being alternately used and not used, so that said scanning steps used determine said acquisition steps, whereas said scanning steps not used determine said non-acquisition steps.
9. (Original) Method according to claim 1, wherein said at least two groups of light sources comprises two groups.
10. (Currently Amended) Method according to claim 9, wherein said illumination cycle-portion of said illumination cycle of one of said two groups of light sources temporally corresponds to said non-illumination portion of the other one of said two groups of light sources.
11. (Original) Method according to claim 1, wherein said illumination cycle-portion of said illumination cycle of one of said at least two groups of light sources temporally corresponds to said non-illumination cycle-portion of another of said at least two groups of light sources.
12. (Original) Method according to claim 1, wherein said illumination cycle-portion of said illumination cycle of one of said at least two groups of light sources temporally corresponds to said non-illumination cycle-portion of all the other ones of said at least two groups of light sources.

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13. (Original) Method according to claim 1, wherein said reciprocally different timing is variable.
14. (New) Method according to claim 1, wherein the non-acquisition step overlaps at least partially with the illumination cycle-portion of the light sources of at least one of the groups of light sources.
15. (New) Method for reading a graphic pattern, comprising the steps of:

illuminating said graphic pattern with at least two groups of light sources, each of said at least two groups of light sources having at least one light source operating according to an illumination cycle that comprises an illumination cycle-portion and a non-illumination cycle-portion;

wherein said light sources of one of said at least two groups of light sources are activated according to equal illumination cycles,

wherein said illumination cycles of said light sources belonging to different ones of said at least two groups of light sources have a reciprocally different timing;

gathering light from said light sources having been diffused by said graphic pattern on a sensor having a plurality of sensitive points, and

converting, through a conversion cycle of said sensor, said light impinging on said plurality of sensitive points, point by point, into electric signals representative of single points of said graphic pattern, at a same time for all of said plurality of sensitive points, said conversion cycle comprising an acquisition step and a non-acquisition step,

wherein the non-acquisition step overlaps at least partially with the illumination cycle-portion of the light sources of at least one of the groups of light sources.
16. (New) Method according to claim 15, wherein said illumination cycles of all of said light sources are equal to one another, and wherein said illumination cycles of said light sources of one of said at least two groups of light sources are not

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timed with respect to said illumination cycles of said light sources of a different one of said at least two groups of light sources.

17. (New) Method according to claim 16, wherein said illumination cycle of each light source and said conversion cycle have a same period.
18. (New) Method according to claim 17, wherein each of said light sources is located a distance from a privileged illumination zone, said method further comprising the step of dividing said light sources into one of said at least two groups of light sources according to said distance.
19. (New) Method according to claim 18, wherein, for each of said light sources of one of said at least two groups of light sources, said illumination cycle-portion overlaps said gathering step wherein a greater distance of said light sources of said one of said at least two groups of light sources from said privileged illumination zone corresponds to a longer overlap.
20. (New) Method according to claim 17, wherein in said conversion cycle said acquisition step and said non-acquisition step are regulated by a shutter, which, when activated, determines said non-acquisition step, and when not activated, determines said acquisition step.
21. (New) Method according to claim 17, wherein said sensor operates according to a succession of scanning steps having said same period, such scanning steps being alternately used and not used, so that said scanning steps used determine said acquisition steps, whereas said scanning steps not used determine said non-acquisition steps.
22. (New) Method according to claim 21, wherein said illumination cycle-portion of said illumination cycle of one of said two groups of light sources temporally corresponds to said non-illumination portion of the other one of said two groups of light sources.

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23. (New) Method according to claim 15, wherein said reciprocally different timing is variable.
24. (New) Method for reading a graphic pattern, comprising the steps of:
- illuminating said graphic pattern with at least two groups of light sources, each of said at least two groups of light sources having at least one light source operating according to an illumination cycle that comprises an illumination cycle-portion and a non-illumination cycle-portion;
- wherein said light sources of one of said at least two groups of light sources are activated according to equal illumination cycles,
- wherein said illumination cycles of said light sources belonging to different ones of said at least two groups of light sources have a reciprocally different timing;
- gathering light from said light sources having been diffused by said graphic pattern on a sensor having a plurality of sensitive points, and
- converting, through a conversion cycle of said sensor, said light impinging on said plurality of sensitive points, point by point, into electric signals representative of single points of said graphic pattern, at a same time for all of said plurality of sensitive points;
- wherein said reciprocally different timing is variable.